

Project-Based Learning in Improving Early Childhood Children's Ability to Know Social and Geographical Environments

Sri Setyowati[✉], Nur Ika Sari Rakhmawati¹, Ruqayyah Fitri¹, Wulan P. Saroinsong¹, Nurhenti Dorlina Simatupang¹

Pendidikan Guru Pendidikan Anak Usia Dini, Universitas Negeri Surabaya, Indonesia⁽¹⁾

DOI: [10.31004/obsesi.v7i3.4653](https://doi.org/10.31004/obsesi.v7i3.4653)

Abstract

The teacher's efforts in providing educational services in schools to introduce children's social and geographical environment can be made using project-based learning (Project Based Learn). This study aimed to determine the effectiveness of project-based learning in improving early children's skills in social and geographic environments. The research design used is a quasi-experimental design. The experimental group was not randomly selected, and the control group was separated into two sample groups. According to the hypothesis, the experiment produced substantial results. So that H_a is accepted, it can be concluded that project-based learning significantly influences the introduction of early childhood's social and geographical environment.

Keywords: *project-based learning; social environment; geographical environment*

Copyright (c) 2023 Sri Setyowati, et al.

✉ Corresponding author : Sri Setyowati

Email Address : srisetyowati@unesa.ac.id (Surabaya, Indonesia)

Received 20 March 2023, Accepted 25 June 2023, Published 26 June 2023

Introduction

The designed early childhood education learning program aims to develop the whole child's potential to be human being following a nation's culture and philosophy (Suyanto, 2003). Human life includes social interactions, natural objects, and the living environment. Every child can develop and use skills while exploring the earth, which is home to living things, that "will allow him to understand better the world around him and determine where the child lives" (National Council for the Social Studies, 1998). Similarly, in early childhood learning, people, places to live, locations, directions, and various types of environments are learning content that allows children to observe, experience, and develop an initial understanding of the nature of the world and where they live (Schoenfeldt, 2001).

Children constantly interact with the social environment, other living things, places, locations, and directions in their daily activities. The social and geographic environment influences early childhood learning. For their survival, children Socrates' are social creatures, or Zoon Politicon (Khasinah, 2013)). Children observe, process information, and then mimic the behaviours they see (Mussen & Paul H, 1987)). The geographical environment, also known as the physical environment, impacts children's growth and development, for example; space, environmental systems, location, position, calculations, temperature, and air quality ((National Council for the Social Studies, 1998; Barry-Davis, 1999; (Fathurrohman, 2016), The

physical and social environments are where children live in such places as a village, city, remote location or near a city, mountain range or beach. Children who grow up near the beach, railroad tracks, or aeroplane runways, for example, have louder voices than children who grow up elsewhere.

Children spend 20% of their time at school and 80% with their families and communities. The family, as the child's first social environment, contributes to the development of the child's character ((Dimerman, 2009, (Machmud et al., 2020)). The findings of this study are consistent (Putro, 2015), which shows a positive relationship between parenting and peer social interaction on children's emotional intelligence. This means that the child's social environment shapes his emotional and social abilities, and it is hoped that appropriate emotions and behaviour will emerge following social norms. Children begin to adjust their emotions and behaviour as they become aware of the existence of another world around them, allowing them to engage in peer interactions. Additionally, awareness of the world around them in terms of location, direction, and social environment can help children avoid dangers that may befall them.

In Indonesia, education is not as good as it could be because many parents of school-age children, and even parents of small children, are less involved in their care and development since they must provide for their families. In Indonesia, both parents usually work to support their families. Mothers who have to work miss out on an average of more than 7 hours per day with their children, to witness and support as they grow and develop. Therefore, parents' presence and involvement are crucial for preventing undesirable behaviours like bullying and fostering high levels of self-regulation in young children, which is crucial for healthy early childhood development. Therefore, teachers must maintain open communication lines with parents to provide consistent care for and study support for their children at home. Project-based learning is a method that teachers can use to introduce students to their local and global communities.

The conceptual basis for project learning starts with the ideas of philosopher (Dewey, 1959)), who contends that giving pupils the opportunity to examine real items, contextual learning, and giving them issues to solve will aid in their development. The statement's essence is deep inquiry learning to gain understanding. According to Kokotsaki, Menzies, and Wiggins (2016), project-based learning is a type of student-centred learning based on three constructivist principles: specific context-based learning, active participation of students, and the learning process through social interaction and sharing. As a result, this research aims to determine the efficacy of project-based learning in introducing early childhood's geographical and social environment.

One of the strategies that can be used to develop the principle of playing while learning and making children the centre of learning in early childhood education is the project-based learning approach. According to a literature review, project-based teaching methods can be used at all levels of education, from early childhood to higher education (Katz, 2011); Rinaldi, 2006). The philosophical foundation for project learning begins with the thought of philosopher (Dewey, 1959), who argues that allowing students to observe real objects, contextual learning, and providing problems for students to solve will help them develop. The statement's essence is deep inquiry learning to gain understanding. Furthermore, four core things must be built when children learn, according to an understanding of how children learn (Bransford & Cocking, 1999): 1) actively construct, 2) learning situations, 3) social interaction, and 4) learning aids (cognitive tools). In project-based learning, children learn topics that interest them and make them want to learn more deeply. This can be done individually or in groups. Children feel directly involved in project learning, making learning more meaningful. The meaningful learning sustains long-term memory.

Project-based learning is a learning strategy that allows teachers to manage classroom learning using project work (Wena, 2011: 144). There is an inquiry learning process in project-based learning. Inquiry learning is a learning activity that maximizes all children's abilities to

search for and investigate something (objects, people, or events) in a systematic, critical, logical, and analytical manner so that they can confidently and scientifically formulate their own findings. In this study, the learning stage of the project to be carried out is as follows: 1) provide questions that must be completed individually or in groups, 2) plan projects, 3) provide the necessary learning resources, 4) observe and monitor the progress of student projects, and 5) evaluate experiences.

Individual development and identity are integrated into discussions about self, others, and community, as well as social skills (Silver Spring, n.d.), and the community in which humans are made up of groups and institutions that influence individual development (Silver Spring, n.d.). The ideas in the two standards are consistent in that social skills are developed to enable a person to function in societal groups and institutions. Young children have diverse social skills when they enter the early childhood classroom. Once in the classroom, however, children face the daunting task of learning to relate effectively to adults and peers, most of whom are strangers to them. Children will be asked to learn new and possibly different social skills and to give up some of their individuality for the benefit of others and the group (Fromboluti & Seefeldt, 2000). Interactions between a child's biology and social, economic, physical, cultural, and technological environment contribute to growth and development experiences (Rodger & Ziviani, 2006). While the environment can help with job performance and social participation, it can also present obstacles or unreasonable demands that limit performance (Kielhofner, 2002; Ziviani & Rodger, 2006). The social environment, such as the home environment, school and cultural background, and parents' educational level, can all impact children's health (Rayner JF, 1970; (Mohebbi SZ et al., 2008); (Niji R et al., 2010). ((LeFevre et al., 20120); (LeFevre et al., 2009); Lukie, Skwarchuk, LeFevre, & Sowinski, 2014; (Niklas & Schneider, 2013)). As a result, the child's social environment can influence other skills and life skills, thereby supporting the child's future.

Although children in their early childhood cannot distinguish latitude and longitude, or even left and right, they can recognize the shape of the body and how much space is used, recognize the different parts of the body, pay attention to how the body moves and rests, and recognize how sound is a part of the body (Dill, 1994). This body awareness is the foundation for the subsequent fundamental understanding of location. "The concept of location is formed at a young age. At the age of two, children can notice the characteristics of their surroundings, such as bedrooms, bathrooms, or courtyards" (Fromboluti & Seefeldt, 2000). Holistic integration of geography content that includes elements from the natural sciences, social sciences, and humanities can assist children in seeing the connections between the various topics they have learned. The solar system includes the Earth, land, and water. Landforms, water, climate, soil, animal life, ideas, and human actions have shaped children's character, including the concept of a place to live. Some children get an education on Earth as a home, and the values and beliefs come with that (George Lucas Foundation, 2010); (National Council for the Social Studies, 1998). In teaching the concept of geography should begin with the study of the physical environment and provide opportunities for children to observe, speculate, analyze, and evaluate the environment in which they live. Geography also examines the actions that can be taken to solve problems, and thereby help prepare children to become good and active citizens. Its role in teaching about the future has been longstanding ((Fien & Gerber, 1988). Therefore geography content needs to be given to early childhood, especially on material about location, characteristics of landforms, soil, water, possible hazards and self-safety measures.

Methodology

The research design used is a quasi-experimental design. This study was divided into two sample groups, namely the control and experimental groups, which were not randomly chosen. The sample used in this study was 44 children aged 5-6 years. Research data was collected using observation and documentation methods. Observations were made to obtain

data during the pretest, treatment and posttest, observations using observation sheets on the implementation of project-based learning and the child's ability to recognize the geographical and early childhood school environment. While the implementation of the pretest, treatment, and posttest is supported by the documentation, which is utilized to gather supporting data. The introduction of the social and geographic environment of early childhood in two groups was compared using the 2-way ANOVA test, and the F test was used to ascertain the validity of the hypothesis.

Result and Discussion

Results

This study's findings went through five research stages: pre-research, pretest data collection, treatment implementation, posttest data collection, and data analysis. The pretest and posttest questions were based on research indicators on the ability to recognize early childhood's geographical and social environments (Seefeldt, 1998) As a result, 5 sets of pretest and posttest are produced. This study collected data on the ability to recognize the social and geographical environment twice, namely when collecting pretest and posttest data. The data collection was carried out in the experimental group and the control group at the same time.

The treatments were given three times. In treatment, the children were invited to observe their school environment and then draw a plan of the school environment, consisting of two stages: drawing the classroom and drawing any rooms around the school. In treatment, children observed the school environment and access to the school entrance from the north and south doors by rabbit-cart. During treatment, children were invited to go around their school environment, observing buildings, roads, and the social environment around the school environment, and then children were asked to retell using their own language. Treatment is mockups play. The mockups in this study were adapted to the children's geographical environment, with several places often accessed by children when they come to or leave school. In treatment, the teacher first explains the route when the child comes to school. Starting from passing through the gate to walking through several places the child had previously been introduced to treatment.

Following the collection of all data (table 1, 2 and 3), tests for normality, homogeneity, and data hypothesis testing are conducted based on the results of the pretest and posttest conducted in both groups, namely the experimental and control groups. Based on the normality test, the results of a significance value (2-tailed) on the test with Kolmogorov-Smirnov obtained 0.121 pretest results for the experimental group, 0.200 pretest results for the control group, and 0.72 posttest results for the control group, indicating that it is meaningful. If the value of the data normality test is greater than 0.05, indicating that the data is normally distributed, H_a is accepted while H^0 is rejected.

Table 1. Test of Normality
Test of Normality

Class		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistics	df	Sig.
Results	Experiment	.165	22	.121	.915	22	.059
	Posttest Experiment	.104	22	.200*	.970	22	.711
	Pretest Control	.110	22	.200*	.956	22	.414
	Posttest Control	.177	22	.072	.946	22	.265

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Results of the homogeneity test showed that Sig (2-tailed) in the first result showed a significance value of > 0.05 , so the variances of the two groups in this study had similarities or almost the same characteristics. So it can be concluded that the two groups are homogeneous or have the same variance.

The hypothesis test is 0.065. When sig.0.05, H_a is accepted while H_o is rejected. For F values > from F tables, F tables with a total sample of 44, namely 3, 443 (can be seen in Appendix F Table). It is known that the F value is 3.803 and > F table. So that H_a is accepted, it can be concluded that there is a significant influence of project-based learning on the introduction of the geographical and social environment of early childhood.

Table 2. Test of Homogeneity

Test of Homogeneity of Variance		Levene Statistics	df1	df2	Sig.
Results	Based on Mean	1,966	3	84	.125
	Based on Median	1,980	3	84	.123
	Based on Median and with adjusted df	1,980	3	77,551	.124
	Based on trimmed mean	1,972	3	84	.124

Table 3. Test of Hypothesis

ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	122,895	1	122,895	3,803	.065b
	Residual	646,377	20	32,319		
	Total	769,273	21			

Discussion

Based on the research, it is known that the main data in this study were obtained through pretest and posttest. The pretest and posttest were given to both the experimental and control groups at the same time. The control and experimental groups in this study received treatment in environmental-themed learning activities. The control group was introduced to the home and school environment through visual and audio-visual media and assignments. In the experimental group, the activities planned for each treatment were as follows: 1) making a plan of the school environment, 2) going around the school environment with rabbit crates through the north and south gates, and 3) arranging a mock-up of the school environment. In treatment, children are asked to draw the surroundings and people around them, especially in the classroom and around school, to recognize their geographical and social environment. In addition to self-concept, children are asked to comprehend ideas about other people and the community (Silver Spring, n.d.)

This refers to the theoretical basis of project from the philosopher John (Dewey, 1959), who argues that students will develop themselves if given the opportunity to investigate real objects, contextual learning, and provide problems for students to solve. The essence of the statement is deep inquiry learning to gain understanding. Furthermore, according to an understanding of how children learn (Bransford & Cocking, 1999), there are four core things that must be built when children learn; 1) actively construct, 2) learning situations, 3) social interaction, 4) learning aids (cognitive tools). For this reason, in the first treatment, children are asked to observe the classroom and school environment and then describe according to what is observed. This is then strengthened by carrying out the treatment next.

Early childhood still has fundamental concepts about the geographical and social environment, which refers to early childhood belief that everything that moves such as cars, clouds, and rivers is alive and has life (Piaget, 1965). Therefore in the second treatment, the children were introduced to a broader geographical environment but still within the scope of the child's school, the child was invited to tour the environment around the school, including places the child had visited (meeting halls, mosques, lakes) and the route where the child go to school from the north or south gate. In treatment, children get to know several new places and can see these places directly and meet the people around them. Thus children can get to

know community groups and institutions which impact child development (Silver Spring, n.d.) and experience the environment directly (Fromboluti & Seefeldt, 2000)).

For treatment, namely playing mockups, the mockups are designed according to the geographical environment at school. This mockup is in the form of miniature buildings, roads or trees that can be removed so that children can directly see how a building or place looks. Children can also show the location where the building is located. Children can also play together to find out how the path is when children go to and from school from both the north and south gates. This refers to project-based learning syntax that has been developed by The (George Lucas Foundation, 2010) are 1) determining fundamental questions; 2) designing project plans; 3) Arranging a schedule; 4) monitoring students and project progress; 5) testing the results; and 6) evaluating experiences. In addition, by carrying out treatments, it is consistent that some children develop the concept of the earth as a place to live, and children also learn the concepts of attitudes and values inherent in learning to care for the earth (GESF, 1994; (Fien & Gerber, 1988; National Council for the Social Studies, 1998)).

The first step in teaching a child about geography is to show them the world around them. Teachers should encourage their children to make observations, hypotheses, analyses, and evaluations as they learn about their surroundings. Actually, kids are learning geography when they become accustomed to their surroundings. The country's capital city does not need to be memorized or mapped for this material. Children pick up knowledge as they watch, engage in, and form a basic comprehension of place and world concepts (Schoenfeldt, 2001). Through early inquiry, children, like geographers, learn to respond to the two central issues of geography (George Lucas Foundation, 2010). Children will comprehend that in order to survive and thrive, living creatures need a place to call home.

Conclusion

Based on the results, teachers can provide educational services in schools to introduce children's social and geographic environment using project-based learning. In project-based learning, the teacher must set learning objectives that are in accordance with the learning content that will be studied by children, provide the widest possible opportunity for children to explore what has been provided by the teacher, monitor children and test the results that have been achieved by children.

Acknowledgement

We'd like to express our deepest gratitude to stakeholders at campus for providing moral support and research funding so that this research can be completed on time. We also do not forget to express our deepest gratitude to the teachers and principals who have assisted in conducting research so that this research can run well.

References

- Barry-Davis, J. (1999). *Intuitive understanding of time and space at the age of four*. Western Michigan University.
- Bransford, J., & Cocking, R. R. (1999). *How People Learn: Brain, Mind, Experience, and School*. National Academy Press.
- Dewey, J. (1959). *Dewey on Education*. Teachers College Press.
- Dimerman, S. (2009). *Character is the Key: How to Unlock the Best in our Children and Our-selves*. John Wiley & Sons Canada.
- Fathurrohman, M. (2016). Pembawaan, Keturunan, Dan Lingkungan Dalam Perspektif Islam. *KABILAH: Journal of Social Community*, 1(2), 379–406. <http://ejournal.kopertais4.or.id/madura/index.php/kabilah/article/view/2868>
- Fien, J., & Gerber, R. (1988). *Teaching geography for a better world*. Oliver & Boyd.

- Fromboluti, C. S., & Seefeldt, C. (2000). *Early Childhood: Where Learning Begins. Geography. With Activities for Children Ages 2 to 5 Years of Age* (2nd ed.). National Institute on Early Childhood Development and Education.
- George Lucas Foundation. (2010). *Education Nation: Six Leading Edges of Innovation in Our Schools*. www.Glef Org. <https://www.edutopia.org/educationnation>
- Katz, L. (2011). *Project And Young Children*. NAEYC : Columbia University.
- Khasinah, S. (2013). Hakikat Manusia Menurut Pandangan Islam dan Barat. *JURNAL ILMIAH DIDAKTIKA: Media Ilmiah Pendidikan Dan Pengajaran* , 13(2). <https://jurnal.ar-raniry.ac.id/index.php/didaktika/article/view/480>
- LeFevre, J., Polyzoi, E., Skwarchuk, S., Fast, L., & Sowinski, C. (20120). Do home numeracy and literacy practices of Greek and Canadian parents predict the numeracy skills of kindergarten children. *International Journal of Early Years Education*, 18(1), 55–70. <https://www.tandfonline.com/doi/abs/10.1080/09669761003693926>
- LeFevre, J., Skwarchuk, S., Smith-Chant, B., Kamawar, D., & Bisanz, J. (2009). Home numeracy experiences and children's math performance in the early school years. *Canadian Journal of Behavioural Science/Revue Canadienne Des Sciences Du Comportement*, 41(22), 55–66. <http://doi.org/10.1037/a0014532>
- Machmud, H., Alim, N., & Ulviya, L. (2020). Keterampilan Sosial Anak Suku Bajo di Sulawesi Tenggara. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 4(2), 787–802. <https://doi.org/10.31004/obsesi.v4i2.459>
- Mohebbi SZ, Virtanen JI, Murtomaa H, Vahid- Golpayegani M, & Vehkalahti MM. (2008). Mothers as facilitators of oral hygiene in early childhood. *Int J Paediatr Dent* , 48–55. <https://pubmed.ncbi.nlm.nih.gov/18086026>
- Mussen, & Paul H. (1987). *Perkembangan dan Kepribadian Anak*. Erlangga.
- National Council for the Social Studies. (1998). *Social studies for early childhood and elementary school children: Preparing for the 21st century*. [Www.Socialstudies.Org/Positions/Elementary.Html](http://www.Socialstudies.Org/Positions/Elementary.Html)
- Niji R, Arita K, Abe Y, Lucas ME, Nishino M, & Mitome M. (2010). Maternal age at birth and other risk factors in early childhood caries. *Pediatr Dent*, 493–498. <https://pubmed.ncbi.nlm.nih.gov/21462761>
- Niklas, F., & Schneider, W. (2013). Casting the die before the die is cast: The importance of the home numeracy environment for preschool children. *European Journal of Psychology of Education*, 29(3), 327–345. <http://doi.org/10.1007/s10212-013-0201-6>
- Piaget, J. (1965). *The child's conception of the world*. Littlefield Adams.
- Seefeldt, C. (1998). Assessing Young Children. *Continuing Issues in Early Childhood Education*, February 2004, 314–334.
- Silver Spring, MD. (2010). *National curriculum standards for social studies: A framework for teaching, learning, and assessment*. National Council for the Social Studies.